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SOME APHIDIDAE OF SUMATRA (HEMIPTERA)

BY

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The aphids recorded in this paper were collected and sent to the author for identification by Dr. Fulmek of the Deli Experiment Station at Medan, Sumatra. So far as the author has been able to ascertain, no species of the family *Aphididae* has been recorded from Sumatra.

The author wishes to express his sincere thanks to Dr. Fulmek for the specimens kindly sent to him.

Macrosiphum rosae L.—Aphididae of Formosa, part 1, p. 8 (1921) and part 2, p. 71 (1923).

Host—*Rosa* sp.

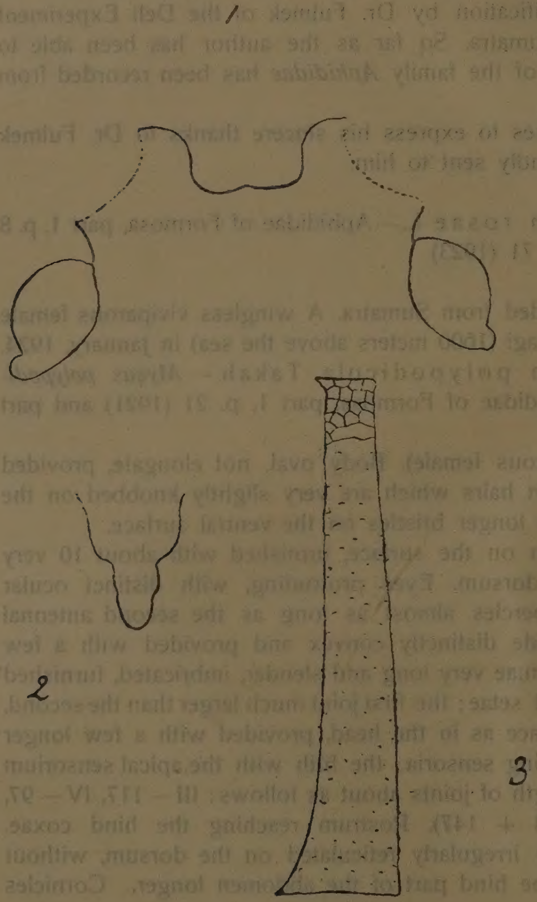
Hitherto unrecorded from Sumatra. A wingless viviparous female was collected at Brastagi (1600 meters above the sea) in January, 1924.

Macrosiphum polypodicola Takah.—*Myzus polypodicola*, Takahashi, Aphididae of Formosa, part 1, p. 21 (1921) and part 2, p. 82 (1923).

(Apterous viviparous female). Body oval, not elongate, provided with a few very short hairs which are very slightly knobbed on the dorsal side and some longer bristles on the ventral surface.

Head not smooth on the surface, furnished with about 10 very short setae on the dorsum. Eyes protruding, with distinct ocular tubercles. Frontal tubercles almost as long as the second antennal joint, on the inner side distinctly convex and provided with a few very small setae. Antennae very long and slender, imbricated, furnished with a few very small setae; the first joint much larger than the second, granular on the surface as in the head, provided with a few longer bristles; the third lacking sensoria; the fifth with the apical sensorium small; the relative length of joints about as follows: III—117, IV—97, V—67, VI—171 (24 + 147). Rostrum reaching the hind coxae. Thorax and abdomen irregularly reticulated on the dorsum, without tubercles. Hairs on the hind part of the abdomen longer. Cornicles

large, cylindrical, rather stout, gradually tapering, scarcely expanded at the base, not curved, faintly imbricated, reticulated on the apical portion, almost as long as the fourth antennal joint, about 3.5 times as long as the cauda, about 4 times as long as wide at the base. Cauda rather stout, when seen from above a little longer than wide, narrowed on the distal half, with the basal part almost as stout as the proximal part of the cornicle, about as long as the basal part of the sixth antennal joint, provided with 2 pairs of long lateral bristles. Legs very long and slender; tibiae as stout as or stouter than the third antennal joint, furnished with some moderately long or rather short setae; tarsi short, scarcely imbricated, hind tarsi a little shorter than the basal part of the sixth antennal joint.



Macrosiphum polypodicola Tak.
(Apterous viviparous female).
1. head. — 2. cauda. — 3. cornicle.

Length of body — about 1.8 mm. Antenna — about 2.5 mm.

Cornicle — about 0.5mm.

In the specimens preserved in alcohol the body is blackish brown in colour, with the cornicles black. The cornicles are variable in length in the specimens collected in Formosa.

(Winged viviparous female). Wings hyaline, very slightly clouded along the first oblique of the fore wing. Head smooth on the surface, provided with about 10 very short setae on the dorsum. Frontal tubercles short, shorter

than the second antennal joint, somewhat convex on the inner side. Antennae very long and slender, furnished with a few very small setae; the first joint much larger than the second, not smooth on the surface; the third joint a little imbricated on the basal part, provided with about 28—33 circular sensoria which are of medium or somewhat large size, not distinctly protuberant and scattered over the whole length; the fourth faintly imbricated, furnished with about 16—20 similar sensoria; the fifth imbricated, with 0—3 similar sensoria, the apical sensorium small; the basal part of the sixth a little longer than the first; the relative length of joints about as follows: III—110, IV—85, V—65, VI—180 (25+155). Rostrum reaching a little beyond the hind coxae. Thorax and abdomen not reticulated, with a few very short slightly knobbed setae on the dorsum; hairs on the hind part of the abdomen longer. The first oblique on the front wing almost straight; the second very slightly or scarcely curved; the third twice forked, the upper branch extending to the apex of the wing; stigmatic vein somewhat strongly curved; hind wings with 2 almost parallel obliques; hooklets 3. Cornicles cylindrical, slightly narrowed toward the tip, not dilated at the base, not curved, faintly imbricated, reticulated on the apical portion, almost as long as the fourth antennal joint, about 3 times as long as the cauda, about 5.6 times as long as wide. Cauda when seen from above, tapering, about 1.3 times as long as wide, somewhat narrowed on the distal half, stouter than the cornicle, almost as long as the basal part of the sixth antennal joint furnished with 2 pairs of long lateral bristles. Legs very long and slender; tibiae almost as stout as the fourth antennal joint provided with many moderately long setae; tarsi short, not imbricated, hind tarsi a little shorter than the basal part of the sixth antennal joint.

Length of body — about 1.75 mm. Antenna — about 2.4 mm.

Fore wing — about 2.5 mm. Cornicle — about 0.4 mm.

Host — *Dryopteris arida.*

Distribution — Sumatra (Rotterdam Est.); Formosa.

Hitherto unrecorded from Sumatra.

Many winged and wingless viviparous females were collected in March, 1924. In Formosa this species is very rare, the winged forms having never been discovered. It is very remarkable that the third antennal joint of the apterous form of this aphis is not provided with sensoria.

Macrosiphum woodwardiae Takah. — (Aphididae of Formosa, part I, p. 20 and part 2, pp. 28 and 82) is closely allied to *M. polypodicola* Takah., but differs from it in the following characters:

Body much larger, provided with much longer capitate hairs.

Frontal tubercles more developed. Antennae provided with more longer hairs. The third joint of the apterous form not imbricated, the fourth faintly imbricated. The third and fourth joints of the winged form provided with less sensoria almost arranged in one row. Cornicles longer.

Macrosiphum orientale v.d. Goot.—Tijd. voor Ent., p. 322 (1912) and Contrib. Fauna Indes Neerland., I, 3, p. 14 (1917).

A winged and a few wingless viviparous females were collected on *Blumea balsamifera* at Mariendal Est. in January, 1924. Hitherto recorded only from Java.

Myzus persicae Sulz.—Some viviparous females were collected on *Portulacca oleracea* in July, 1923, at Rimboen Est. Many viviparous individuals were also collected on *Nicotiana tabacum* at Medan in December, 1923; on *Acalypha boehmeroides* and *Senecio sonchifolius* beneath tobacco at Medan in March 1924;

Pentalonia caladii v.d. Goot.—Contrib. Fauna Indes Neerland., I, 3, p. 57 (1917).

A winged and a few wingless viviparous females were collected on *Caladium bicolor* at Medan in December, 1923. This species may prove to be identical with *P. nigronervosa* Coq.

Rhopalosiphum pseudobrassicae Davis.—Takahashi, Aphididae of Formosa — 1, p. 33 (1921).

Some viviparous females were collected on *Gynandropsis speciosa* in December, 1923, at Medan; on *Brassica rugosa* at Medan inFebruary 1924.

Aphis maidis Fitch. — Takahashi, Aphididae of Formosa — 1, p. 57 (1921).

Some winged viviparous forms were collected on *Zea mays* at Patoemba Est. in 1921; on *Rottboelia glandulosa* at Bekalla Est. in January 1924.

Aphis gossypii Glov.—Syn. *Aphis malvae* Koch, Die Pflanzenl., p. 125 (1857); Das, Mem. Ind'an Mus., VI, p. 213 (1918); Takahashi, Aphididae of Formosa — 1, p. 46 (1921) and, ibid. part. 2. p. 99 (1923). syn. *Aphis tectonae* van der Goot, Contrib. Fauna Indes Neerland., I, 3, p. III (1917).

Many specimens were collected on *Acalypha boehmeroides*, *Colocasia antiquorum*, *Hibiscus rosa sinensis*, *Leucas zeylanica*, *Tectona grandis*, ect. in November or December, 1923; on *Commelina benghalensis* and *Solanum sp.* at Medan in Maart, 1924; on *Erechtites valerianifolia* and *Solanum melongena* at Rimboen Est., January 1924; on *Ochroma lagopoides* at Medan in February 1924.

Aphis tectonae v. d. Goot seems to be this species. The author collected many viviparous females, both winged and wingless, on *Tectona grandis* at Kizan, Formosa, on November 29, 1923.

Aphis medicaginis Koch. — Aphididae of Formosa part 1, p. 46 (1921) and part 2, p. 101 (1923).

Hosts — *Vigna sinensis*, *Phaseolus lunatus*. Many winged and wingless viviparous females were collected at Medan in February, 1924. Hitherto unrecorded from Sumatra.

Anuraphis helichrysi Kalt.—Kaltenbach, Monogr. Pflanzenl., p. 102 (1843); Takahashi, Aphididae of Formosa — 1. p. 59 (1921).

Many viviparous females were collected on *Ageratum conyzoides* in January, 1923, at Goenoeng Rinteh Est. and in December, 1923, at Amplas Est.

In Formosa this species is very common on this host plant.

Oregma rhapidis v. d. Goot.—Contrib. Fauna. Ind. Neerland., I, 3, p. 217 (1917) and Tijdschrift voor Ent., LX, p. 113 (1918).

Host — *Cocos nucifera*, attacking the leaf.

Many apterous viviparous females were collected at Medan in February 1924. These specimens almost exactly agree with the original description, but are smaller, measuring about 1.5 mm. in length. This species has been recorded from Java and Singapore.

Tetraneura ulmi De Geer.—A winged viviparous female was found among the specimens of *Aphis gossypii* Glov. collected on *Colocasia antiquorum* in December, 1923.

According to Dr. Mordwilko (Compt. Rendus Acad. Sc. Russie, 1923, p. 42), *Tetraneura javensis* v. d. Goot is a synonym of this species.

List of food plant of the *Aphididae* in Deli (Sumatra E. C.)

Acalypha boehmeroides	*Aphis gossypii* Glov.
	Myzus persicae Sulz.
Ageratum conyzoides	*Anuraphis helichrysi* Kalt.
Blumea balsamifera	*Macrosiphum orientale* v.d.G.
Caladium bicolor	*Pentalonia caladii* v.d.G.
Cocos nucifera	*Oregma rhaphidis* v. d. G.
Colocasia antiquorum	*Aphis gossypii* Glov.
Commelina benghalensis	*Aphis gossypii* Glov.
Dryopteris arida	*Macrosiphum polypodicc.a* Takah.
Erechtites valerianifolia	*Aphis gossypii* Glov.
Gynandropsis speciosa	*Rhopalosiphum pseudobrassicae* Davis.
Hibiscus rosa sinensis	*Aphis gossypii* Glov.
Leucas zeylanica	*Aphis gossypii* Glov.
Nicotiana tabacum	*Myzus persicae* Sulz.
Ochroma lagopoides	*Aphis gossypii* Glov.
Phaseolus lunatus	*Aphis medicaginis* Koch.

Portulacca oleracea	*Myzus persicae* Sulz.
Rosa cult.	*Macrosiphum rosae* L.
Rottboelia glandulosa	*Aphis maidis* Fitch.
Senecio sonchifolius	*Myzus persicae* Sulz.
Solanum melongena	*Aphis gossypii* Glov.
Solanum sp.	*Aphis gossypii* Glov.
Tectona grandis	*Aphis gossypii* Glov.
Vigna sinensis	*Aphis medicaginis* Koch.
Zea mays	*Aphis maidis* Fitch.

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March '24.